MASTER PLAN

Urbana Sanitary Landfill

Urbana Park District
Urbana Illinois

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November 21, 1974

Mr. Bruce L. Larson, President
Board of Commissioners
Urbana Park District
Urbana, Illinois 61801

Dear Mr. Larson:

I am pleased to submit the following report on the Master Plan for the development of the Urbana Sanitary Landfill Site. The work involved in making this study has been accomplished through the cooperative effort of the Board of Commissioners, the Park Staff, and representatives of the City of Urbana.

The underlying purpose of this study is to provide a plan for the Sanitary Landfill that will coordinate present landfilling operations and final grading of the site with a feasible development of the land for recreational use. This study has been prepared with careful survey and analysis of the potentials and/or limitations of the site, as well as the program objectives and resources of the Park District.

It has been my pleasure to work with the District Board, Staff, City, and many other concerned individuals who have contributed to the realization of this report. I look forward to your continuing interest and commitment in the implementation of the Sanitary Landfill Site for recreational development.

Respectfully submitted,

Robert W. Zolomij

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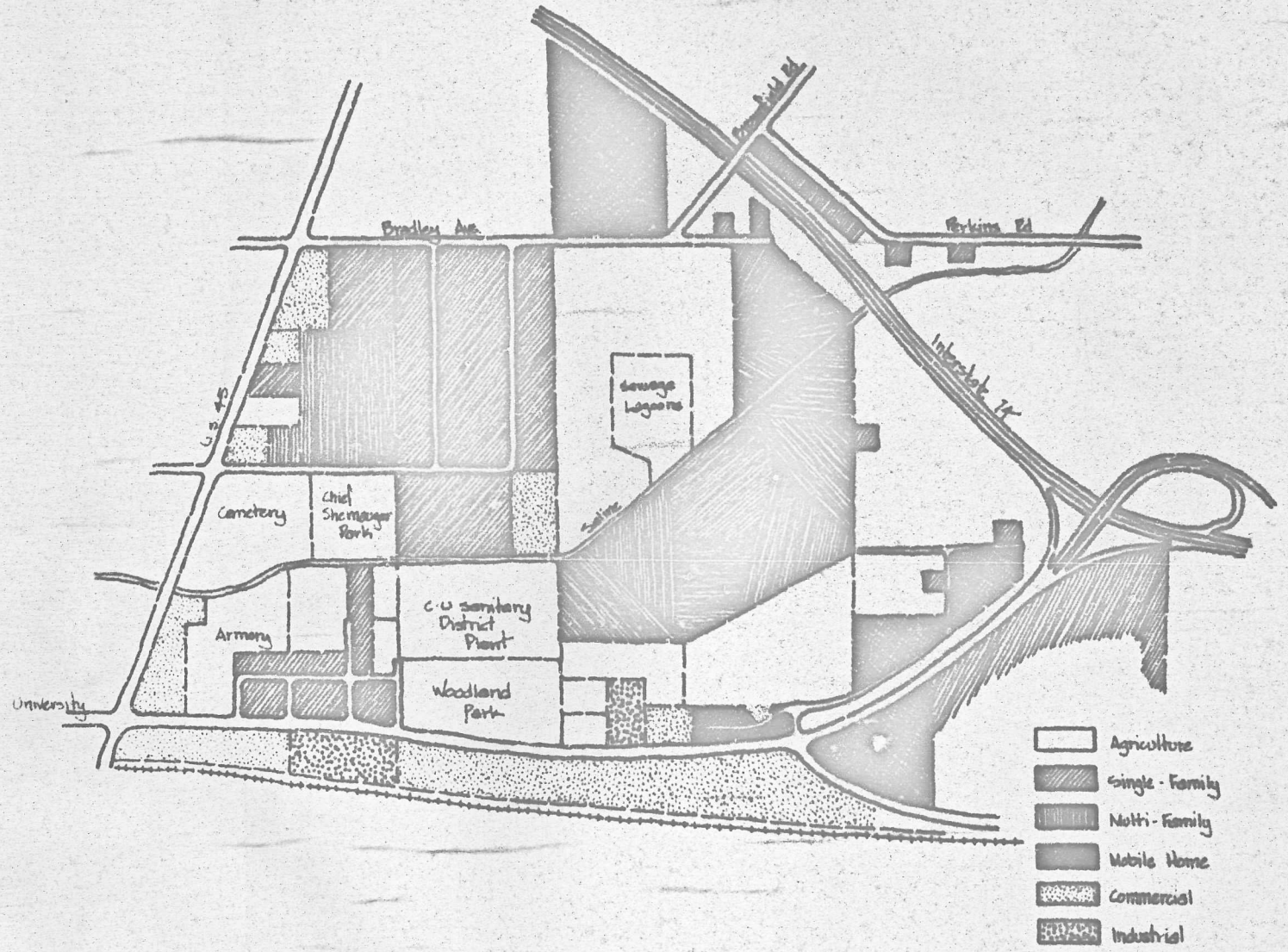
CONTENTS

land use

The area of primary consideration has been defined by the interstate and major traffic arteries as illustrated in the following map. With this area, approximately 40 per cent is open area consisting of Woodland and Chief Shemauger Parks, cemetery, vacant lots, and agricultural land. Approximately 40 per cent of the area is residential, consisting of single family, multi-family, and four mobile home parks. The remaining 20 per cent is governmental use, consisting of the armory, Champaign-Urbana Sanitary District Plant, and commercial and industrial uses.

The City of Urbana has grown steadily to the south and east, and major growth in terms of residential development will probably continue in these directions in the future. Development in the landfill area has been primarily in the form of commercial and industrial uses, with this trend most likely continuing.

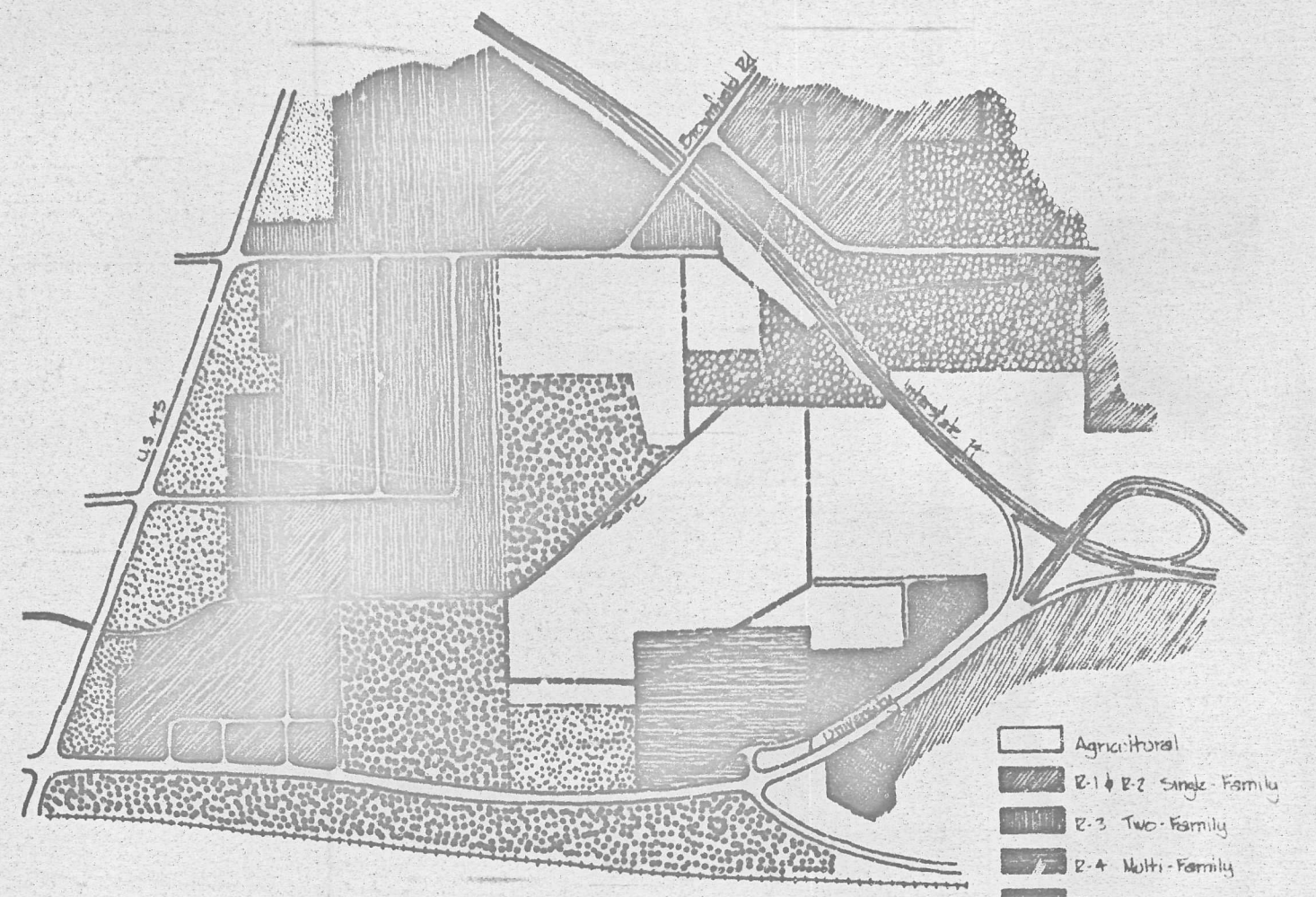

Bradley Ave.
Perkins Rd
Interstate 74
Sewage Lagoons
Cemetery
Chief Shemauger Park
c-u sanitary District Plant
Armory
Woodland Park
University
Agriculture
Single - Family
Multi - Family
Mobile Home
Commercial
Industrial

LAND USE

zoning

Because the landfill area is located at the city limits, zoning within the defined area falls under the jurisdiction of both the City of Urbana and Champaign County. Although the city does not have jurisdiction beyond its boundary in cases of zoning changes, it does have control in terms of subdivision and authority to review, recommend, and appeal zoning decisions within the 1½ mile area that are before the County Zoning Board of Appeals.

Zoning classifications within the area generally follow existing land use patterns. As indicated in the following map, the landfill site is zoned agricultural, with a small portion in the north zoned conservation-recreation. In the county, the area along the Saline is zoned conservation-recreation. Other zoning classifications immediately surrounding the landfill site include, industrial to the north and west, commercial and multi-family to the south, and agricultural to the east.


Agricultural
R-1 & R-2 Single-Family
R-3 Two-Family
R-4 Multi-Family
R-5 Mobile Home
Recreation-Conservation
B-3 Business
I-1 Light Industrial
I-2 Heavy Industrial

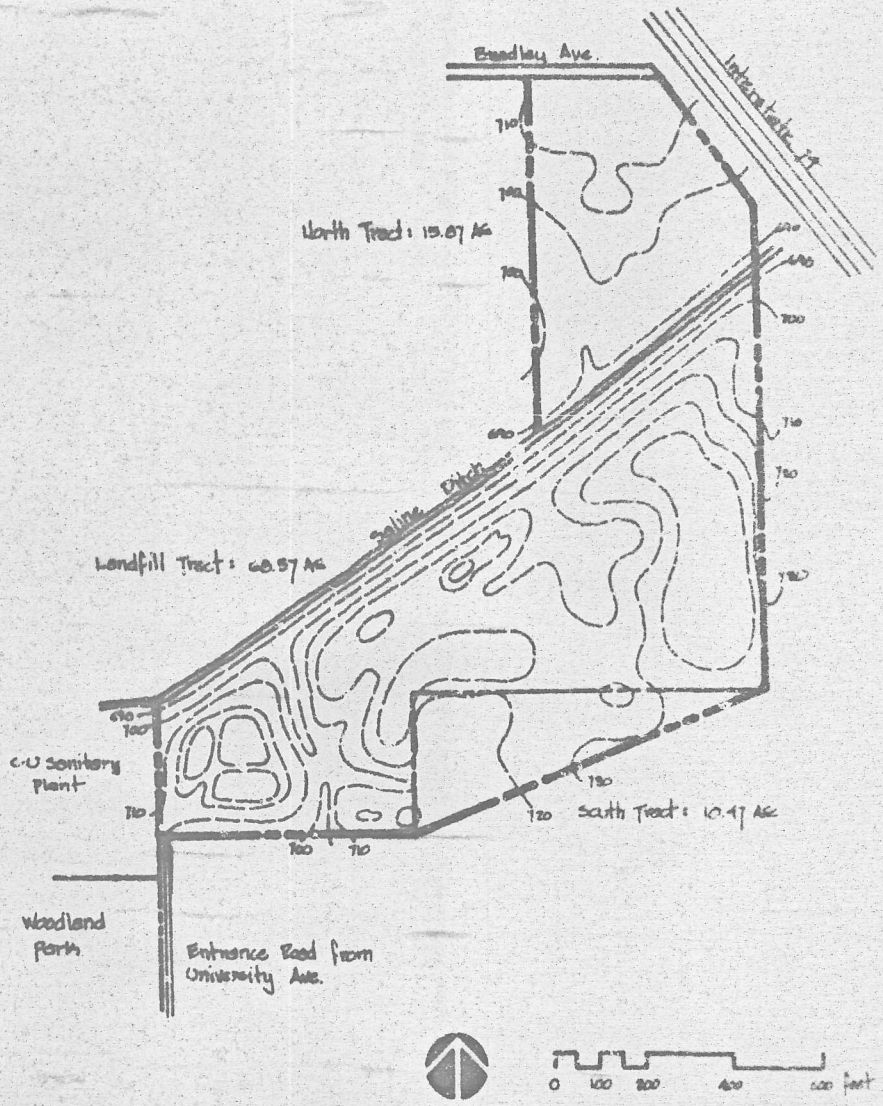
ZONING

SITE RESOURCE SURVEY

The Site Resource Survey involves a detailed study of the physical aspects and overall character of the site itself. This includes slope, vegetation, drainage, soils, landforms, land use, landfill area characteristics, and the existing and adjoining facilties. Site conditions offer direction for development, and should be carefully regarded with respect to the potential they offer and the limitations they propose.

general site description

The Sanitary Landfill Site contains a total of 94.91 acres, which is divided into three tracts of land: north tract - 15.87 acres, landfill tract - 68.57 acres, and the south tract - 10.47 acres. The north tract located on the north side of the Saline, has frontage on Bradley Avenue and is adjacent to Interstate 74. This tract has not been filled with solid waste, and remains fairly undisturbed. The landrill tract is located entirely on the south side of the Saline with approximately 3,000 feet of stream frontage. The Champaign-Urbana Sanitary District Plant is directly west, with commercial-industrial development south, and agricultural use to the east. The south tract is a triangular portion of land acquired by the City in 1973 to be used for excavating cover material for the landfill areas.



general site conditions

Access into the landfill tract is provided by a 20 foot paved road from University Avenue along the east boundary of Woodland Park for a distance of 1,000 feet. Although this road is located within a 33 foot easement, the easement is not continuous for the full distance to University Avenue and may necessitate relocation of the entrance road within Woodland Park when the site is developed. Before the road enters the site, it makes two sharp turns, and then leads almost directly to the storage building. The road within the site exists on stable soil. Several dirt roads exists within the site -- all temporary in nature -- serving the areas being filled.

Access to the north tract is off of Bradley Avenue, where 300 feet of frontage exists. Bradley Avenue dead-ends at the site because of the interstate. Off of Bradley Avenue a narrow dirt road leads directly south down to the floodplain.

Several buildings exist within the landfill tract. The major structure is the storage building which is constructed of concrete block and will remain after the site is closed. The remaining buildings -- three sheds and the police pistol range building -- are all wood structures which will be removed when the site is closed.

The police pistol range is located almost within the present fill area. The pistol range area will not be filled, but the firing range will be removed upon closing of the landfill.

Once the landfill is closed and the site properly covered and graded with soil, there should be no obvious negative remnents of the landfilling operations existing -- such as odors or debris. Although, because of the Sanitary District Plant located directly west, during the summer when breezes are predominantly from the southwest, there are very noticeable odors within the site. These odors might severely limit the use of adjacent areas for certain uses, for instance, picnicking.

Because the banks along the Saline are so steep, accessibility to the stream is almost impossible. Also, there is a considerable amount of debris from the landfill along these slopes, which will have to be removed prior to closing the landfill site.

The only reasonable area of access to the Saline is from the north tract, where the banks are only about 8 feet high.

Since the site is located near the interstate, noise from heavy vehicles could be objectionable to certain uses on the site. The north tract, which is adjacent to the interstate would be most effected by excessive noise.

The sewage lagoons, consisting of 5 acres, in the southwest corner of the site will be removed when the landfill is closed. The lagoons will contain approximately 20,000 cubic yards of dry sludge, which could be used as a soil additive to improve nutrient composition of the cover material.

vegetation

Minimal vegetaion exists within the site. It is located in areas undisturbed by landfilling, along the property boundaries, and primarily along drainage channels, as illustrated in the following map. The major pattern of vegetation is along the bank of the Saline Ditch, where it is only approximately 35 year old due to the last cutting and clearing of the vegetation by the Drainage District in the 1930's.

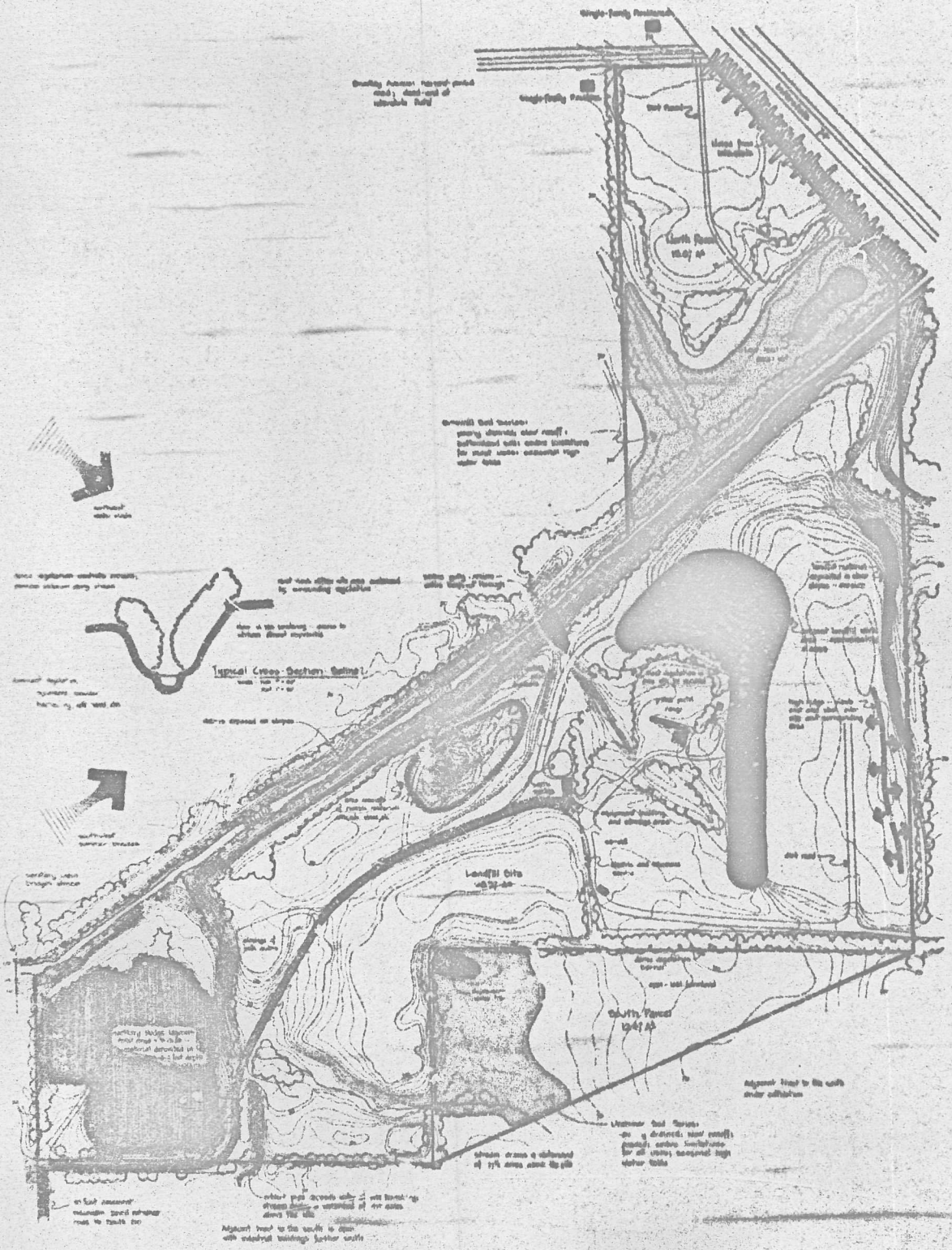
The predominant vegetative types consists of sycamore, boxelder, hackberry, cottonwood, american elm, and sumac, which are relatively fast growing, primary successional plants. It is essential that all existing vegetation be preserved because of its lack within the site, but, primarily because it will minimize potential erosion on steeply sloped areas.

utilities

The only public utilities that exist within the site are electric and telephone. Both utilities come into the site from the southeast corner and provide service to the landfill office and storage structure.

Water is available from a deep-lined well near the storage building. Public water does not exist within the site, but is available from Bradley Avenue and University Avenue.

Sanitary sewage from the landfill office and storage building is handled by a septic system north of the structure. Public sanitary service is available from the west for the landfill tract, and along the north side of the Saline for the north tract.



SITE SURVEY

topography and landform

In considering the physical landform of the site, it varies significantly when compared to most sites in the area. A difference in elevation of 54 feet exists, providing an overall character and interest in its features which contrast its surroundings.

The highest point (750 feet) of the site lies in the middle of the landfill tract near the Saline. This landform has been totally man-made with concrete and rubble material, creating a strong, contrasting form in relation to the rest of the site. The lowest elevation (696 feet) of the site lies along the Saline.

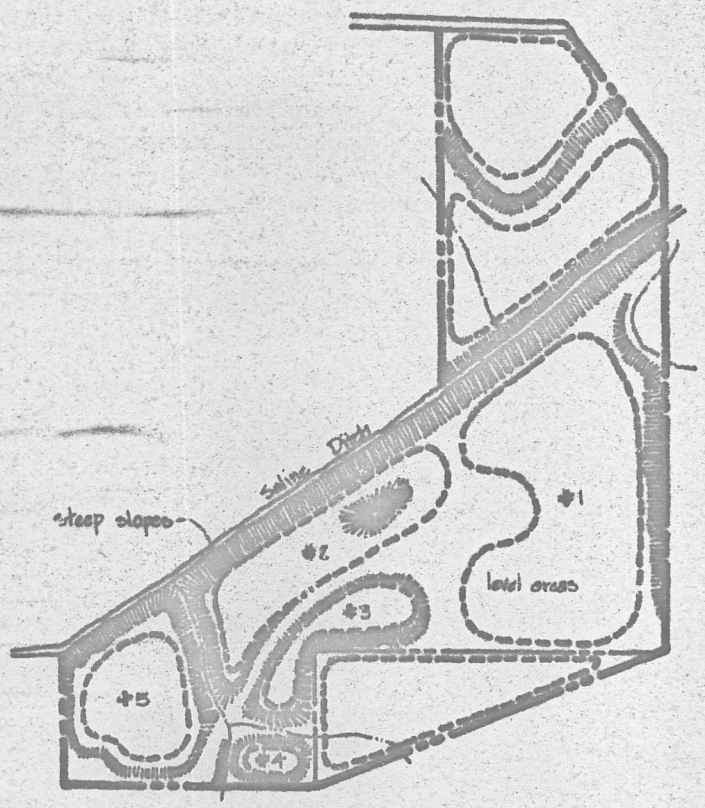
Because of the varied topographic relief, several basic landforms dominant the site. The landform map depicts these landforms and the following description characterizes them.

North Tract: this area consist of two relatively level areas separated by a short-low slope. The level area along the Saline generally defines the floodplain.

South Tract: this area consists of a large open level space sloping gradually to the west.

TOPOGRAPHIC RELIEF

Landfill Tract: the landforms in this area are a direct result of the landfilling operation which has created elevated level areas bordered by steep slopes. The steepest slopes are primarily located along the Saline, the east boundary, and the west drainage channel. As indicated in the landform map, five distinct landfill areas exist.



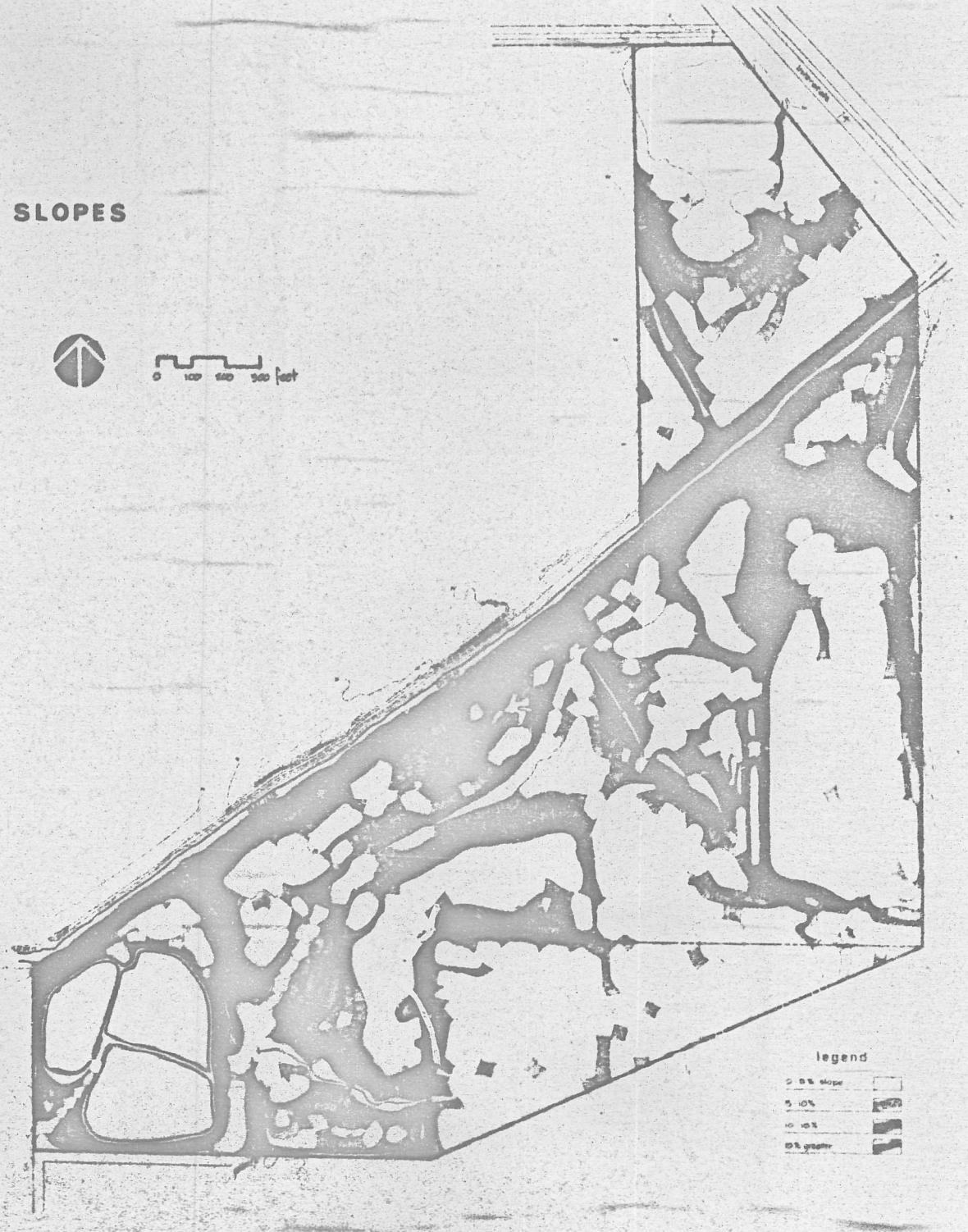
LANDFORM

slopes

As an aid in determining one further measure of planning constraint, the site has been categorized according to the following slope ranges: 0-5%, 5-10%, 10-15% and 15% plus. The variety of slopes that exist on the site provide one of the unique qualities which makes the site so interesting for recreational use.

The four categories of slope are a major indicator of the potentials or limitations of the various activities for specific areas. The 0-5% slope areas are best suited for active facilties, buildings, roads, and parking. Although, areas that are near level (0-1%) should be avoided because of possible poor drainage. Slopes between 5-10% become more limiting in terms of active facilities, such as playfields, which would require considerable grading. This slope is best suited for more informal or unorganized activities -- picnicking, hiking, etc. Slopes between 10-15% are very limited for active use. Some picnicking can occur, provided that it is not too extensive. Possible uses consist of hiking, nature study, and amphitheater. Slopes over 15% should not be disturbed because of the great erosion hazard. These slopes should be protected and held in place by the existing vegetation.

SLOPES

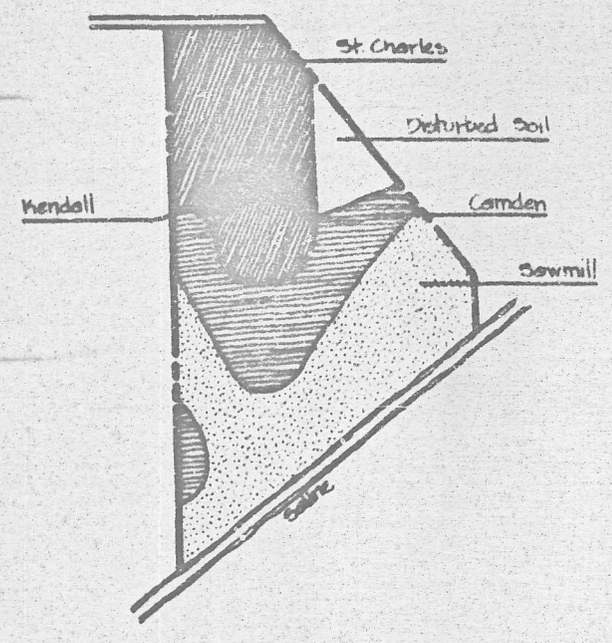


soils

In the design and construction of a site, soil properties become an important concern. Properties such as permeability, depth of the water table, stability, and frost action become factors which may determine the suitability of the site for the specific uses that are to be planned.

Only two areas within the 95 acre site have undisturbed soils: the north 15 acre tract and the south 10 acre tract. Since the south tract will be used as a borrow pit for final cover material on the landfill, the soil will be totally disturbed and will have little influence in terms of final use of the area.

The north tract will not be disturbed, therefore, the suitability of soils will be influential with respect to proposed uses. Four soil types exist within the tract. These have been analyzed and interpreted for various uses in the adjoining table.

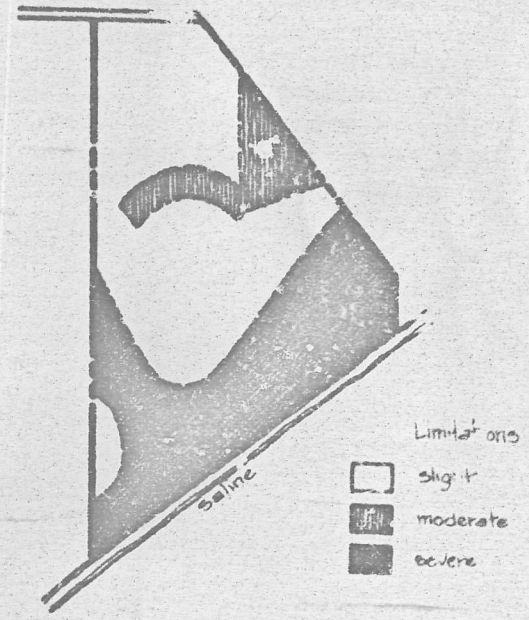


SOILS

Soil Limitations

	STREET LOCATION	FOUNDATIONS	DRAINAGE	CAMP SITES	PICNIC	TRAILS
CAMDEN	moderate	moderate	slight	slight	slight	slight
KENDALL	moderate	moderate	moderate	moderate	moderate	moderate
ST.CHARLES	moderate	moderate	slight	slight	slight	slight
SAWMILL	severe	severe	severe	severe	severe	severe

The following map illustrates the suitability of the four types of soils for campsites, picnic areas, and paths.



SOIL ANALYSIS

landfill areas

Within the 68.57 acre landfill tract, there are five distinct areas totaling 47 acres that have been filled with solid waste since 1930. These areas are noted on the following map and described below.

Area #1: this area contains approximately 20 acres, and has been filled since 1970. The area still has considerable volume remaining for waste material; in addition, an area directly west containing approximately 5 acres may be subject to fill if needed. The total depth of sanitary waste is approximately 50 feet, with 30 feet excavated below and 20 feet filled above the original ground surface. Since this area is the most recent filled, it is the most unstable, and is subject to considerable settlement. The slope along the east boundary has been filled at an extremely steep grade, causing the cover material to be eroded. The EPA has required that the slope be reduced in grade (maximum of 2:1 permitted) before the landfill site is closed.

Area #2: this area contains 7.82 acres, and was filled up until 1970. The total depth of sanitary waste is approximately 30 feet, with 20 feet excavated below and 10 feet filled above the original ground surface. This area, like the following three areas, was filled originally with waste material that was burned and then covered. When burning became illegal in landfills, the area was then filled with compacted waste, which is still subject to settlement. As noted earlier, this area contains a large mound of concrete and rubble material. The EPA stopped the dumping of this material in the form of a mound because the slopes exceeded the 2:1 maximum grade, and the area was not covered. The mound will remain, but it will be covered with soil and sloped adequately before the landfill is closed. At one time, a slaughter house existed where the mound stands. Animal carcasses were buried in the area, and it is believed that this as well as other matter buried in the area may be the cause of leachates from a tile system depositing effluent into the Saline.

Area #3: this area contains 8.79 acres. The total depth of sanitary waste is approximately 30 feet, with 20 feet excavated below and 10 feet filled above the original ground surface. Although it is one of the older areas of the landfill, it is still subject to settlement.

Area #4: this area contains 1.93 acres. The total depth of sanitary waste is approximately 30 feet, with 20 feet excavated below and 10 feet filled above the original ground surface. The area was originally filled with burned waste material, and then later covered with concrete rubble material.

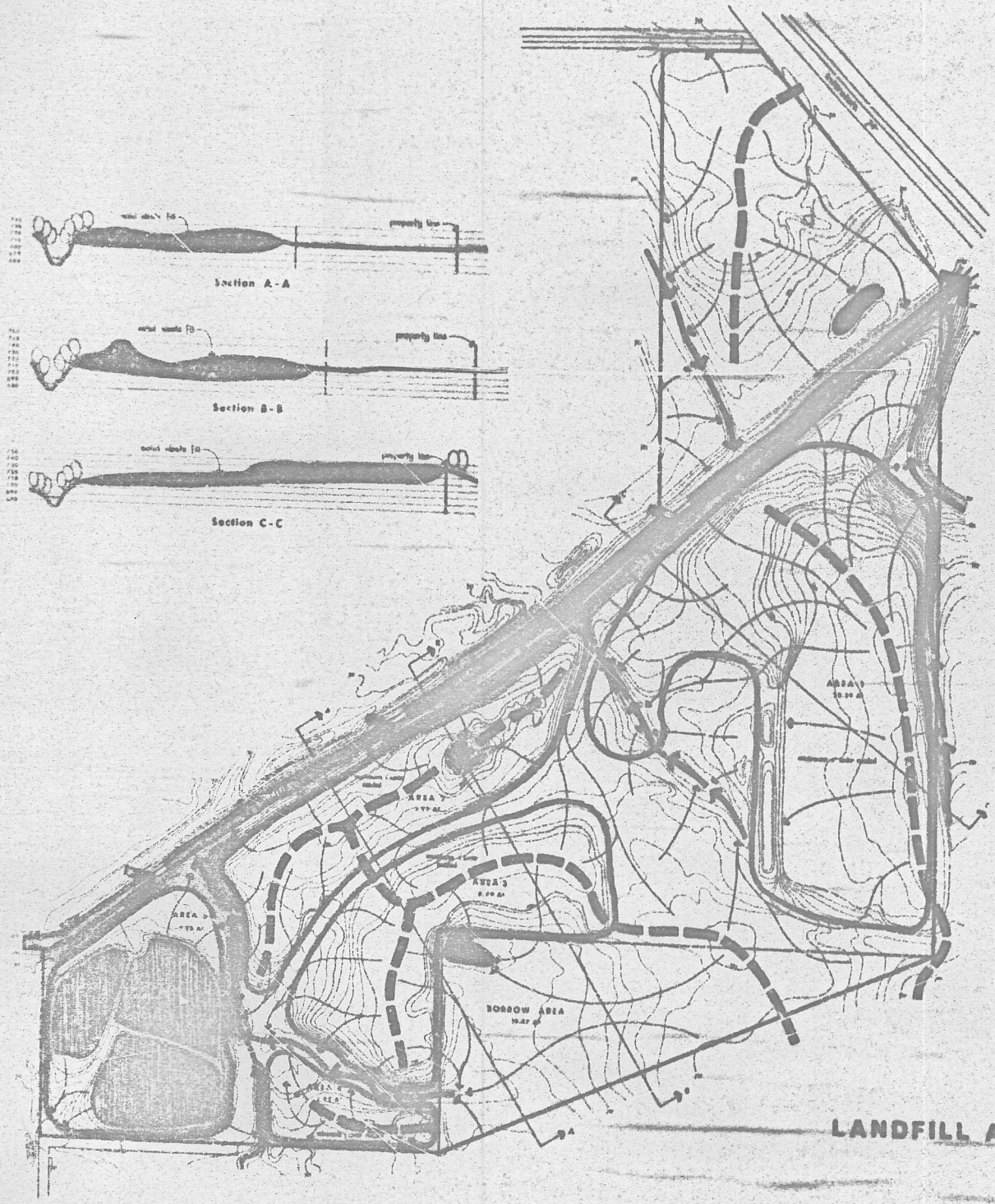
Area #5: this area contains 7.23 acres. The total depth of sanitary waste is approximately 10 feet. It is the oldest area of landfill, having been filled with burned garbage and concrete. The Sanitary District has used this area for three sewage lagoons, where sewage sludge is pumped into three foot deep ponds and permitted to dry for several months. The dry sludge is then removed and can be used as a fertilizer.

Within all five landfill areas, a variety of waste material has been deposited. This mixture of waste in depths of 10-50 feet will be subject to a slow and continual decompositon, causing settlement, cracking of the surface, production of leachates, and production of a variety of gases. It is essential that great care be exercised in providing the final cover over the waste areas, in order to minimize any problems that result from the decompostion of the waste material.

hydrology

Surface drainage patterns are illustrated in the following map. The Saline provides the major drainage flow, with two tributary streams within the landfill tract and one tributary stream in the north tract providing drainage through and off of the site. Because of the steep slopes along the Saline and the tributary streams, there is no floodplain within the landfill tract. In the north tract, a 100 year floodplain exists at approximately the 700 foot elevation.

Subsurface drainage within the sanitary landfill can have severe consequences. The ground water table in the area is generally high -- flunctuating between 700 and 710 elevation. As a result of the high ground water table, it may intercept areas of waste material, causing leachates to pollute the ground water. Also, if water is not permitted to adequately drain off the site, it will percolate through the waste material producing leachates which will eventually pollute the ground water.



LANDFILL AREAS and HYDROLOGY